

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: 8/19/85

RECEIVED
EPA REGION VI

SUBJECT: Potential Hazardous Waste Site

1985 AUG 23 PM 1:46

FROM: Keith Bradley, FIF RPO
Hazardous Waste Section (6ES-SH)

SUPERFUND BRANCH

TO: Martha McKee, Chief
Compliance Section (6AW-SC)

90068436



Site Name:

Location:

Hazsit No.:

TDD No.:

Hughes Landfill

Pandora, Tx.

TX 1473

RG-8502-26

TKD 980 514970

A. Deliverables:

1. Preliminary Assessment (Form 2070-2)
2. Site Inspection Report (Form 2070-3)
3. Sampling Inspection Report
4. Other:

attached ()

attached ()

attached ()

attached ()

B. Were drinking water wells sampled?

Yes () No (X)

C. Analytical Data:

1. None collected
2. Field data
3. Contract lab results
4. Houston lab results

()

()

attached (X)

attached (X)

D. Comments:

FIT indicates that based on the analytical results, it appears that some polynuclear aromatic compounds are migrating (from the old landfill) off site to the south.

FIT recommends that a monitoring well system be established for the closed landfill and the new one.

SUPERFUND
FILE

cc: (circle) Cabra 64-11-33

Gazda 64-11-33

Taylor 6AW-HE

FEB 11 1993

REORGANIZED

ECOLOGY AND ENVIRONMENT, INC.
REGION VI
MEMORANDUM

TO: Keith Bradley, Region VI RPO
FROM: Deborah Vaughn-Wright, FIT-Geologist *DW*
THRU: K.H. Malone Jr., RPM *KHM*
DATE: August 15, 1985
SUBJ: Sampling Inspection at Hughes Landfill, Pasadena, TX (TX1473)
TDD#R6-8502-26. TXD 980-514970

Hughes Landfill (AKA Hughes Trash Disposal) is an active private landfill operated in Pasadena, TX. It covers approximately 62 acres at the intersection of Genoa-Red Bluff Road and Farley Street (See location map-figure 1).

The site was formerly a sand quarry which was converted to a landfill in 1969. Originally, disposal at the site was to natural grade until 1981 when increased activity raised it 20 feet. Around 1979-1980, a clay liner system was implemented to satisfy Texas Department of Health requirements. However, before that time no liner system was present.

During the original FIT reconnaissance inspection (1-18-84), two soil/leachate samples were collected along the northeastern side of the inactive disposal area.

Several elevated readings were detected of organics and inorganics. Arsenic (only metal found) was detected at concentrations 1.5 to 4 times greater than background. Fluoranthene, bis(2-ethylhexyl) phthalate and pyrene (three priority pollutants) were also found as were elevated concentrations of ammonia and sulfides. Based on these results, a sampling plan was developed to further characterize the site.

On November 8, 1984, a proposed FIT sampling plan was submitted to EPA. According to the plan, surface water, soils and a monitoring well sample were to be collected from around the southern portion of the inactive landfill. Since that proposal, Hughes has implemented an expansion of the landfill which required a change of sample locations. The attached site sketch (Figure 2) illustrates these changes and shows the new sample station locations.

On April 16, 1985, a five person field investigation team conducted the sampling inspection. The team consisted of Deborah Vaughn-Wright (Team Leader), Les Cole (safety officer), Thomas Walzer (documentation/decontamination officer), Steve Calhoun (sampler) and James Trusley (sampler).

SUPERFUND
FILE

FEB 11 1993

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Reviewed by GAW-SC
date 2-11-85

The sample station locations were as follows:

- 01 - Surface water from the south end of a new landfill cell being excavated east of the inactive landfill area.

Field Measurements

Conductivity: 1000 umhos
Temperature: 33°C
pH: 6

Originally station 01 was to be a monitoring well (FS-04), however this well was destroyed in the process of excavating the new landfill cell. The new station 01 is in the same general area. Because of the new landfill's cell depth (25-30 ft.), groundwater and/or leachate has seeped into the excavation area. It is believed that this water was not rainwater because of the dry weather the area had been experiencing. Sample 01 should indicate if contaminants are reaching the groundwater.

- 02 - Shallow soil (0-3") taken from a depression along the southern central portion of the inactive landfill.
- 03 - Deep soil (12-15") taken from the same location as 02. Cover is very shallow in this area, fill was encountered below 12"-15".
- 04 - Shallow soil (0-3") taken in the dry drainage canal that follows the southern limit of the inactive landfill area. The sample was taken southwest of the inactive area at the canals end.
- 05 - Deep soil (30"-36") taken from the same location as 04.
- 06 - Surface soil taken in the new landfill cell being excavated along the eastern side (downgradient) of the inactive landfill area. Sample was taken at the south end approximately 10 ft. below the top of the nearly vertical west wall.
- 07 - Surface soil taken in the same location as 06; 2 ft. below the top of the west cell wall.
- 08 - Surface soil from the north end of the west wall of the same newly excavated area as 06. Sample taken approximately 15 ft. below the top of the wall.
- 09 - Surface soil taken in the same location as 08; but 5 ft. below top of the wall.
- 10 - Surface soil taken southwest of the site in the leachate path of the drainage canal.
- 11 - Surface water from standing water pool in drainage canal southwest of the site.

Field Measurements

Conductivity: 800 umhos
Temperature: 30°C
pH: 6

- 12 - Surface water from small rectangular pit, southeast side of inactive landfill area, (QA/QC). Pit receives water pumped from the landfill and leachate from the inactive landfill area.

Field Measurements

Conductivity: 1100 umhos
Temperature: 32°C
pH: 6

- 13 - Surface water from standing water pooled between the new east landfill cell and the inactive landfill area.

Field Measurements

Conductivity: 3600 umhos
Temperature: 34°C
pH: 6

The attached photographs indicate these sample station locations and current site conditions.

Sample Data: Inorganic Analysis

For the five water samples no metals above primary drinking water standards set by the EPA were found. The inorganic analyses for soil did show elevated levels of metals (antimony, beryllium, cobalt, copper, lead, nickel and zinc). The only elevated metal found off-site was beryllium at sample station 10.

Sample Data: Organic Analysis

Organic analysis for the five water samples showed that sample location 01 contained several volatile organic compounds at low concentrations. The other water sample locations contained several tentatively identified compounds but not at the magnitude as station 01.

Acetone and several polynuclear aromatic compounds were found in soil sample locations 02 & 10. Aroclor-1242 at 44 ppb was also found in 02. Sample 03 contained dieldrin (620 ppb), 4,4'-DDD (290 ppb) and chlordane (1500 ppb).

Summary

After reviewing the data it appears that some polynuclear aromatic compounds that are present in the older landfill are migrating off-site to the south.

It is recommended that a monitoring well system be established for the closed landfill area, the new landfill area being excavated to the south and for the Harris/Farley Street Site whose wells were destroyed. The attached proposed well plan (Figure 3) gives approximate locations. Earlier drilling performed by the FIT at the Harris/Farley Street site should give an idea for anticipated depths and stratigraphy.

Table II: ORGANIC ANALYSIS SUMMARY

Site Name/Code Hughes L. F. TX 1473

Case Number 4197

Concentration ppb

Page 1 of 3

| Sample Station Number and Location | Scan No. | Fraction / Class | 02 SOUTH CENTRAL PORTION OF INACTIVE LANDFILL 0-3" | 03 SOUTH CENTRAL PORTION OF INACTIVE LANDFILL 12-15" | 04 S.W. CORNER OF EN- ACTIVE L.F. IN DRAINAGE DITCH 0-3 | 05 S.W. CORNER OF EN- ACTIVE L.F. IN DRAINAGE DITCH 20-36" | 06 E. CENTRAL SIDE OF INACTIVE LANDFILL IN NEW CELL S.W. WALL 10' DEEP | 07 E. CENTRAL SIDE OF INACTIVE LANDFILL IN NEW CELL S.W. WALL 2' DEEP | 08 E. SIDE OF INACTIVE L.F. N.W. WALL OF NEW CELL 15' DEEP | 09 E. SIDE OF INACTIVE L.F. N.W. WALL OF NEW CELL 6' DEEP | 10 IN LEACH- ATE PATH IN S.W. DRAINAGE CANAL 15' E. OF DIRT ROAD | | | |
|------------------------------------|----------|------------------|---|---|--|---|--|---|--|---|---|--|--|--|
| Compound | | | FA 767 | FA 768 | FA 769 | FA 770 | FA 771 | FA 772 | FA 773 | FA 774 | FA 775 | | | |
| EPA SAMPLE NUMBER | | | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | | | |
| MATRIX | | | | | | | | | | | | | | |
| Methylene chloride | | VOA/1 | 4JB | | 5J | 6 | 7 | 26 | 5J | 56 | 21 | | | |
| Chloroform | | VOA/1 | 2JB | | 2JB | 2JB | 2JB | 2JB | 3JB | 3JB | 3JB | | | |
| Toluene | | VOA/1 | | | 1J | | | 4J | | | | | | |
| Trichloroethene | | VOA/1 | | | | 2J | | | | | | | | |
| Ethylbenzene | | VOA/1 | | | | | | | 3J | | | | | |
| 1,1,2,2-tetrachloroethane | | VOA/1 | | | | | | | | | 8 | | | |
| Acetone | | VOA/2 | 410 | | 440 | 320 | 210 | 1200 | 170 | 250 | 950 | | | |
| 2-hexanone | | VOA/2 | | | | | | | | | 8J | | | |
| Total Xylenes | | VOA/2 | | | | | | | 16 | 11 | | | | |
| Acenaphthene | | ABN/1 | 50J | | | | | | | | | | | |
| Phenanthrene | | ABN/1 | 1400 | | | | | | | | | | | |
| Anthracene | | ABN/1 | 100J | | | | | | | | | | | |
| Di-n-butylphthalate | | ABN/1 | 660B | 300JB | 200JB | 200JB | 100JB | 200JB | 300JB | 300JB | 300JB | | | |
| Fluoranthene | | ABN/1 | 1700 | | | | | | | | 100J | | | |
| Pyrene | | ABN/1 | 2100 | | 20J | | | | | | 100J | | | |
| Butylbenzylphthalate | | ABN/1 | 100J | 100J | | | | | | | | | | |
| Bis(2-ethylhexyl)phthalate | | ABN/1 | 100JB | 2600B | 200JB | 90JB | 80JB | 90JB | 50JB | 70JB | | | | |
| Chrysene | | ABN/1 | 2000 | | | | | | | | | | | |
| Benzo(b)fluoranthene | | ABN/1 | 2600 | | | | | | | | 80J | | | |
| Benzo(a)pyrene | | ABN/1 | 1100 | | | | | | | | 50J | | | |
| Indeno(1,2,3,-cd)pyrene | | ABN/1 | 570 | | | | | | | | | | | |
| Benzo(g,h,i)perylene | | ABN/1 | 460 | | | | | | | | | | | |
| Benzo(a)anthracene | | ABN/1 | | | | | | | | | 100J | | | |
| Phenol | | ABN/1 | | | | 20JB | | | | | | | | |
| Benzoic acid | | ABN/2 | 300J | | | | | | | | | | | |
| 2-methylnaphthalene | | ABN/2 | 60J | 200J | | | | | | | | | | |
| 4-methylphenol | | ABN/2 | | 500J | | | | | | | | | | |
| Dieldrin | | PEST/1 | | 620 | | | | | | | | | | |
| 4,4-DDD | | PEST/1 | | 290 | | | | | | | | | | |
| Chlordane | | PEST/1 | | 1500 | | | | | | | | | | |
| Aroclor-1242 | | PCB/1 | 420 | | | | | | | | | | | |
| Dichlorofluoromethane | | VOA/3 | | 66 | | | | | | | | | | |
| Hexane | | VOA/3 | | 7 | | | | | | | | | | |
| Xylene | | VOA/3 | | 16 | | | | | | | | | | |
| 1-methyl-3-propylbenzene | | VOA/3 | | 53 | | | | | | | | | | |
| Tetrahydrofuran | | VOA/3 | | | | | | 10 | | | | | | |
| UNKNOWN | 66 | VOA/3 | | | | | | | | | 13 | | | |
| UNKNOWN | 483 | VOA/3 | | 49 | | | | | | | | | | |
| UNKNOWN | 569 | VOA/3 | | 16 | | | | | | | | | | |
| UNKNOWN | 595 | VOA/3 | | 10 | | | | | | | | | | |
| UNKNOWN | 606 | VOA/3 | | 12 | | | | | | | | | | |
| UNKNOWN | 647 | VOA/3 | | 11 | | | | | | | | | | |
| UNKNOWN | 663 | VOA/3 | | 13 | | | | | | | | | | |

1. Priority Pollutant.

2. Specified Hazardous Substance.

3. Tentatively Identified.

VOA - Volatile

ABN - Acid Base/Neutral

Pest - Pesticide

B - The analyte is found in the lab blank.

J - Indicates an estimated value for tentatively identified compounds or for compounds found below detection limit.

P - Present in sample, but not reported by lab.

| Sample Station Number and Location | Scan No. | Fraction /Class | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | | | | |
|------------------------------------|----------|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|--|--|--|
| EPA SAMPLE NUMBER | | | FA 767 | FA 768 | FA 769 | FA 770 | FA 771 | FA 772 | FA 773 | FA 774 | FA 775 | | | | |
| MATRIX | | | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | | | | |
| 4-hydroxy-4-methyl-2-pentanone | ABN/3 | | 11B | | 270B | 110B | 25B | 76B | 241B | 640B | 106B | | | | |
| 4-hydroxy-4-methyl-2-pentanone | ABN/3 | | 98B | | | 190B | 210B | 320B | 430B | 440B | 340B | | | | |
| 2,2,5,5-tetramethylhexane | ABN/3 | | | 7 | | | | | | | | | | | |
| 3,3-dimethylhexane | ABN/3 | | | 8 | | | | | | | | | | | |
| 2,6-dimethyloctane | ABN/3 | | | 13 | | | | | | | | | | | |
| UNKNOWN 730 | ABN/3 | | | 7 | | | | | | | | | | | |
| UNKNOWN 746 | ABN/3 | | | 8 | | | | | | | | | | | |
| 2,2,3-trimethylhexane | ABN/3 | | | 5 | | | | | | | | | | | |
| UNKNOWN 863 | ABN/3 | | | 5 | | | | | | | | | | | |
| 2,2,3,4-tetramethylpentane | ABN/3 | | | 4 | | | | | | | | | | | |
| UNKNOWN 1369 | ABN/3 | | 6 | | | | | | | | | | | | |
| UNKNOWN 1568 | ABN/3 | | 4B | | 16B | 11B | 9B | 6B | 9B | 98B | 19B | | | | |
| UNKNOWN 1583 | ABN/3 | | 5B | | 17B | 14B | 12B | 7B | 10B | 120B | 30B | | | | |
| Hexadecanoic acid | ABN/3 | | 11 | | | | | | | 54 | | | | | |
| UNKNOWN 1715 | ABN/3 | | 78B | | 490B | 370B | 510B | 260B | 340B | 900B | 830B | | | | |
| UNKNOWN 1718 | ABN/3 | | | 66 | | | | | | 2900 | | | | | |
| Octadecanoic acid | ABN/3 | | 6 | | | | | | | | 16 | | | | |
| UNKNOWN 1807 | ABN/3 | | 8 | | | | | 6 | | | 14 | | | | |
| UNKNOWN 1838 | ABN/3 | | 4 | | | | | | | | | | | | |
| UNKNOWN 1868 | ABN/3 | | 8B | | | | | | | | 19B | | | | |
| UNKNOWN 1918 | ABN/3 | | 13B | | 18B | | 22B | 6B | | 25B | 30B | | | | |
| UNKNOWN 2065 | ABN/3 | | | 6 | | | | | | | | | | | |
| UNKNOWN 2092 | ABN/3 | | 7B | | | | 12B | | | 16B | 21B | | | | |
| UNKNOWN 2355 | ABN/3 | | 9 | | | | | | | | | | | | |
| UNKNOWN 2360 | ABN/3 | | 8 | | | | | 10 | | | | | | | |
| UNKNOWN 414 | ABN/3 | | | | 16 | | | | | | | | | | |
| UNKNOWN 454 | ABN/3 | | | | 120B | 76B | 44B | | | | 550B | | | | |
| UNKNOWN 1105 | ABN/3 | | | | 200 | | | | | | | | | | |
| UNKNOWN 1744 | ABN/3 | | | | 8B | | 10B | 5B | | 94B | 18B | | | | |
| UNKNOWN 1761 | ABN/3 | | | | 15 | 11B | 15B | 4B | | 17B | 31B | | | | |
| UNKNOWN 1874 | ABN/3 | | | | 13B | 17B | 16B | 11B | | 19B | | | | | |
| UNKNOWN 1939 | ABN/3 | | | | 16 | | | 28 | | | 13 | | | | |
| UNKNOWN 2181 | ABN/3 | | | | 24 | | | 12 | | | | | | | |
| UNKNOWN 423 | ABN/3 | | | | | 25B | | | | | | | | | |
| UNKNOWN 651 | ABN/3 | | | | | 61 | | | | | | | | | |
| UNKNOWN 784 | ABN/3 | | | | | 21 | | | | | | | | | |
| UNKNOWN 2524 | ABN/3 | | | | | 40 | 11 | 130 | | | | | | | |
| 2,4-dimethylheptane | ABN/3 | | | | | | 7B | 6B | 9B | | | | | | |
| UNKNOWN 431 | ABN/3 | | | | | | 17 | 14 | 26 | | 12 | | | | |
| 2,3-dimethyl-1,2,3-butanediol | ABN/3 | | | | | | 13 | | | | | | | | |
| UNKNOWN 2282 | ABN/3 | | | | | | 10B | | | | | | | | |
| UNKNOWN 462 | ABN/3 | | | | | | | 110 | | | | | | | |
| UNKNOWN 1336 | ABN/3 | | | | | | | | 31 | | | | | | |
| Diphenylmethanone | ABN/3 | | | | | | | | | 55 | | | | | |
| UNKNOWN 2425 | ABN/3 | | | | | | | | | | 11 | | | | |
| UNKNOWN 2584 | ABN/3 | | | | | | | | | | 20 | | | | |

1. Priority Pollutant.
2. Specified Hazardous Substance.
3. Tentatively Identified.

VOA - Volatile
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 Pest - Pesticide

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Table II: ORGANIC ANALYSIS SUMMARY

Site Name/Code Hughes L. F. TX 1473

Case Number 4197

Concentration ppb Page 3 of 3

| Sample Station Number and Location | Scan No. | Fraction / Class | 01 IN STANDING WATER S.W. CORNER OF SITE ADJACENT TO MAINTENANCE BLDG. | 13 PUDDLE ON W. SIDE OF PIT ADJACENT TO MAIN TENANCE BLDG. | 14 RINGSIDE BLANK | 11 IN STANDING WATER IN DRAINAGE CANAL 25' E. OF DIRT ROAD | 12 PIT S.E. OF INACTIVE L.F. AREA | | | | | | | | | | | | |
|------------------------------------|----------|------------------|---|---|----------------------|---|--------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| EPA SAMPLE NUMBER | | | FA 764 | FA 765 | | | | | | | | | | | | | | | |
| MATRIX | | | | | | | | | | | | | | | | | | | |
| Methylene chloride | | VOA/1 | 19B | 8B | 10B | 5JB | 5JB | | | | | | | | | | | | |
| 1,1-dichloroethene | | VOA/1 | 5J | | | | | | | | | | | | | | | | |
| Trans-1,2-dichloroethene | | VOA/1 | 5J | | | | | | | | | | | | | | | | |
| Chloroform | | VOA/1 | 5J | | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | | VOA/1 | 5J | | 5J | | | | | | | | | | | | | | |
| Carbon tetrachloride | | VOA/1 | 5J | | | | | | | | | | | | | | | | |
| Bromodichloromethane | | VOA/1 | 5J | | | | | | | | | | | | | | | | |
| Trichloroethene | | VOA/1 | 5J | 5J | | | 5J | | | | | | | | | | | | |
| Benzene | | VOA/1 | 5J | | 5J | | | | | | | | | | | | | | |
| Tetrachloroethene | | VOA/1 | 5J | | | | | | | | | | | | | | | | |
| 1,1,2,2-tetrachloroethane | | VOA/1 | 5J | | | | 5J | | | | | | | | | | | | |
| Toluene | | VOA/1 | 5J | | 5J | | | | | | | | | | | | | | |
| Chlorobenzene | | VOA/1 | 5J | | | | | | | | | | | | | | | | |
| Ethylbenzene | | VOA/1 | 5 | | | | | | | | | | | | | | | | |
| 4-methyl-2-pentanone | | VOA/2 | | | | | 190 | | | | | | | | | | | | |
| Total Xylenes | | VOA/2 | 21 | | | | | | | | | | | | | | | | |
| Bis(2-ethylhexyl)phthalate | | ABN/1 | | 25 | | 20J | 190 | | | | | | | | | | | | |
| 2,4-dimethyl-3-pentanone | | VOA/3 | 8 | | | 6 | | | | | | | | | | | | | |
| Dichlorofluoromethane | | VOA/3 | | 83 | | | | | | | | | | | | | | | |
| Thiobis methane | | VOA/3 | | 51 | | | | | | | | | | | | | | | |
| TrichloroFluoromethane | | VOA/3 | | 26 | | | | | | | | | | | | | | | |
| Ethanedioic acid | | VOA/3 | | | 27J | | | | | | | | | | | | | | |
| 2-methyl-3-hexanone | | VOA/3 | | | | | 10 | | | | | | | | | | | | |
| UNKNOWN | 578 | ABN/3 | 11 | | | | | | | | | | | | | | | | |
| UNKNOWN | 543 | ABN/3 | | 14 | 10J | | | | | | | | | | | | | | |
| Trans-1,2-dichlorocyclohexane | | ABN/3 | | 11 | 12J | 15 | 16 | | | | | | | | | | | | |
| UNKNOWN | 897 | ABN/3 | | | 11 | | | | | | | | | | | | | | |
| UNKNOWN | 947 | ABN/3 | | | 17 | | | | | | | | | | | | | | |
| UNKNOWN | 965 | ABN/3 | | | 13 | | | | | | | | | | | | | | |
| Trans-4-chlorocyclohexanol | | ABN/3 | | | | 37 | 25 | | | | | | | | | | | | |
| 1,4-dimethylnaphthalene | | ABN/3 | | | | | 11 | | | | | | | | | | | | |

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3. Tentatively Identified.

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B - The analyte is found in the lab blank.
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INORGANIC WATER ANALYSIS SUMMARY

Page 1 of 2

CASE NUMBER: 4197

SITE NAME/CODE: Hughes L. F. TX 1473

| PARAMETER | CONCENTRATIONS (ppb) EPA Sample Numbers | | | | | | | | | | Drinking Water Criteria | |
|-------------------------|--|---------|---------|---------|---------|--|--|--|--|--|-------------------------|-----------|
| | MFA 091 | MFA 092 | MFA 093 | MFA 022 | MFA 023 | | | | | | Primary | Secondary |
| Matrix type | WATER | WATER | WATER | WATER | WATER | | | | | | | |
| Aluminum | 1,160 | 1,520 | | 332 | 443 | | | | | | | |
| Antimony | | | | | | | | | | | | |
| Arsenic | | 12 | | | | | | | | | 50 | |
| Barium | 256 | 144 | | 430 | 364 | | | | | | 1000 | |
| Beryllium | | | | 1.3 | | | | | | | | |
| Cadmium | | | | | | | | | | | 10 | |
| Copper | 113,000 | 288,000 | 89 | 116,000 | 128,000 | | | | | | | |
| Chromium | 4.1 | 23 | | | | | | | | | 50 | |
| Cobalt | 4.7 | | | | 4.3 | | | | | | | |
| Copper | 16 | 7.5 | | 24 | 21 | | | | | | | 1000 |
| Iron | 1,030 | 2,300 | 14 | 308 | 432 | | | | | | | 300 |
| Lead | | | | | | | | | | | 50 | |
| Magnesium | 34,900 | 91,600 | 45 | 23,000 | 33,000 | | | | | | | |
| Manganese | 171 | 1,030 | 1.6 | 147 | 101 | | | | | | | 50 |
| Mercury | | | | | | | | | | | 2 | |
| Nickel | | | | | | | | | | | | |
| Potassium | | 24,600 | | | | | | | | | | |
| Selenium | | | | | | | | | | | 10 | |
| Silver | | | | | | | | | | | 50 | |
| Sodium | 52,200 | 440,000 | 98 | 55,700 | 60,000 | | | | | | | |
| Thallium | | | | | | | | | | | | |
| Tin | | | | 22 | | | | | | | | |
| Vanadium | | 6.1 | | | 3.3 | | | | | | | |
| | 12 | 22 | 6.1 | 20 | 14 | | | | | | | 5000 |
| Cyanide | | | 8.6 | | 13 | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Station No. | 01 | 13 | 14 | 11 | 12 | | | | | | | |
| Sample Station Location | | | | | | | | | | | | |

E-indicates a value estimated or not reported due to the presence of interference.

R-spike sample recovery is not within control limits.

*-duplicate analysis is not within control limits.

INORGANIC WATER ANALYSIS SUMMARY

Page 2 of 2

CASE NUMBER: 4197

SITE NAME/CODE: Hughes L. F. TX 1473

CONCENTRATIONS (ppb) mg/kg

| PARAMETER | EPA Sample Numbers | | | | | | | | | | Drinking Water Criteria | |
|-------------------------|--------------------|---------|---------|---------|---------|---------|---------|---------|---------|--|-------------------------|-----------|
| | MFA 094 | MFA 095 | MFA 096 | MFA 097 | MFA 098 | MFA 099 | MFA 100 | MFA 201 | MFA 202 | | Primary | Secondary |
| Matrix type | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | | | |
| Aluminum | 27,000 | 14,100 | 3,360 | 7,600 | 6,510 | 9,470 | 6,930 | 7,120 | 3,540 | | | |
| Antimony | 36 | 22 | | | 17 | | | | | | | |
| Arsenic | | | | | | | | | | | 50 | |
| Barium | 184 | 154 | 63 | 325 | 244 | 331 | 105 | 75 | 91 | | 1000 | |
| Beryllium | 2.3 | 2.3 | 1.1 | 1.2 | 1.7 | 1.3 | 1.3 | | 0.78 | | | |
| Cadmium | | | | | | | | | | | 10 | |
| Chromium | 51,800 | 77,100 | 13,400 | 97,500 | 131,000 | 26,200 | 52,400 | 12,400 | 12,400 | | | |
| Chromium | 29 | 28 | 5.3 | 7.1 | 8.2 | 9 | 10 | | | | 50 | |
| Cobalt | 11 | 7.4 | 3.6 | 2.9 | 9.9 | 5.6 | 8.7 | | 3.9 | | | |
| Copper | 41 | 1,100 | 5.0 | 4.4 | 6.1 | 6.4 | 8.8 | | 1.8 | | | 1000 |
| Iron | 21,600 | 14,700 | 5,270 | 4,580 | 12,300 | 6,460 | 8,240 | 7,240 | 4,680 | | | 300 |
| Lead | 23 | 55 | 8.6 | 5.1 | 5.9 | 10 | 5.9 | 14 | 6.2 | | 50 | |
| Magnesium | 6,600 | 4,070 | 1,680 | 6,920 | 2,830 | 3,400 | 3,900 | 1,200 | 1,260 | | | |
| Manganese | 313 | 495 | 160 | 67 | 280 | 104 | 333 | 75 | 311 | | | 50 |
| Mercury | | 0.97 | | | | | | | | | 2 | |
| Nickel | 22 | 18 | 7.4 | | | | 9.5 | | 12 | | | |
| Potassium | 3,880 | 1,340 | | | | | 656 | 1,950 | 734 | | | |
| Selenium | | | | 2.9 | | | | | | | 10 | |
| Silver | | | | | | | | | | | 50 | |
| Sodium | 259 | 1,150 | 121 | 227 | 185 | 167 | 244 | 105 | 129 | | | |
| Thallium | | | | | | | | | | | | |
| Tin | | 16 | | | | | | | | | | |
| Vanadium | 41 | 102 | 9.1 | 15 | 62 | 20 | 13 | | 8.4 | | | |
| Vanadium | 122 | 1,000 | 65 | 13 | 9.8 | 14 | 27 | | 10 | | | 5000 |
| Cyanide | | | 0.55 | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Station No. | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | | | |
| Sample Station Location | | | | | | | | | | | | |

E-indicates a value estimated or not reported due to the presence of interference.

R-spike sample recovery is not within control limits.

*-duplicate analysis is not within control limits.

Hughes Landfill TX1473

FIGURE: 1
SITE LOCATION MAP

Pasadena, Tx.
7 1/2" topo quad
USGS
1967

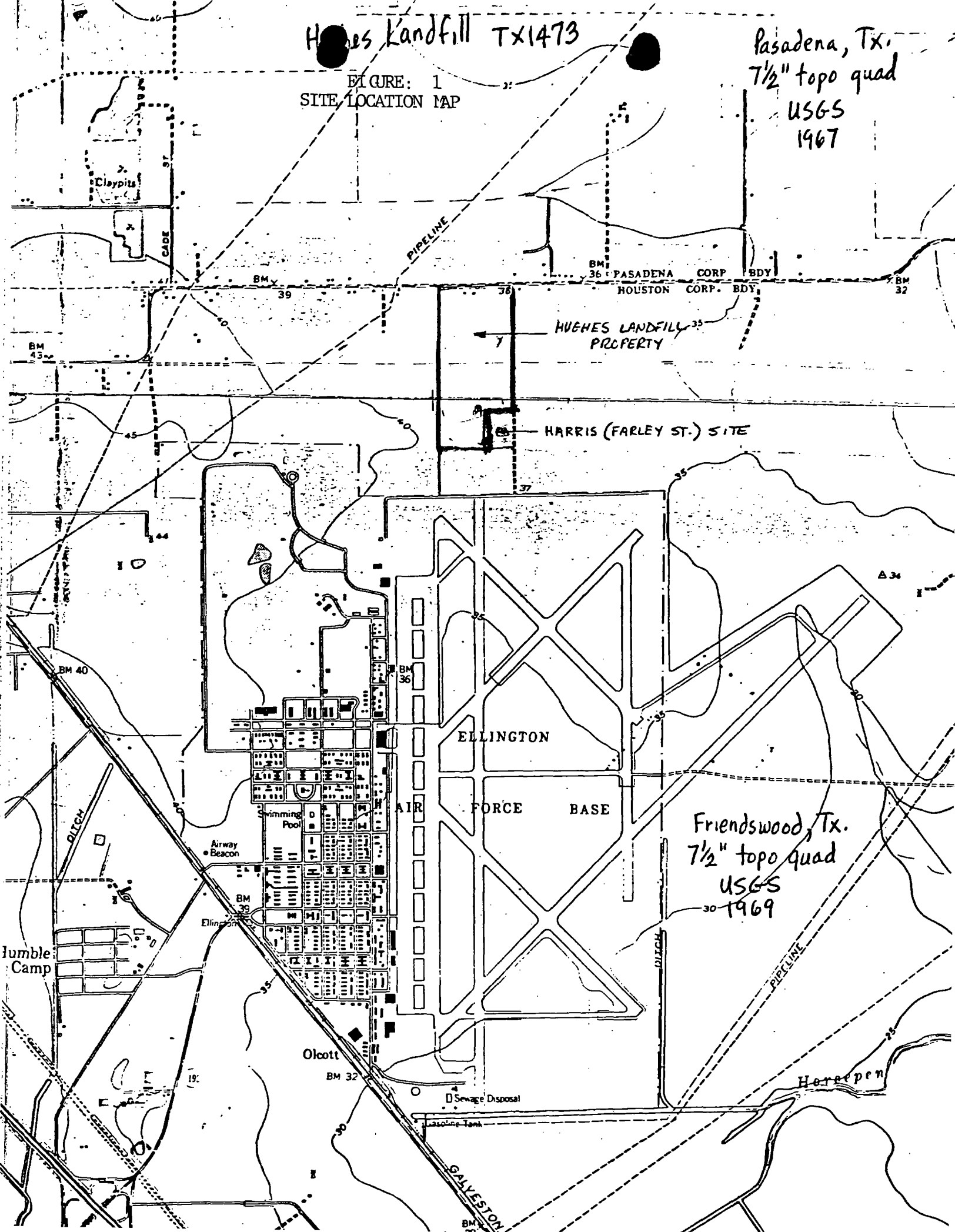


FIGURE: 3

PROPOSED WELL LOCATION PLAN

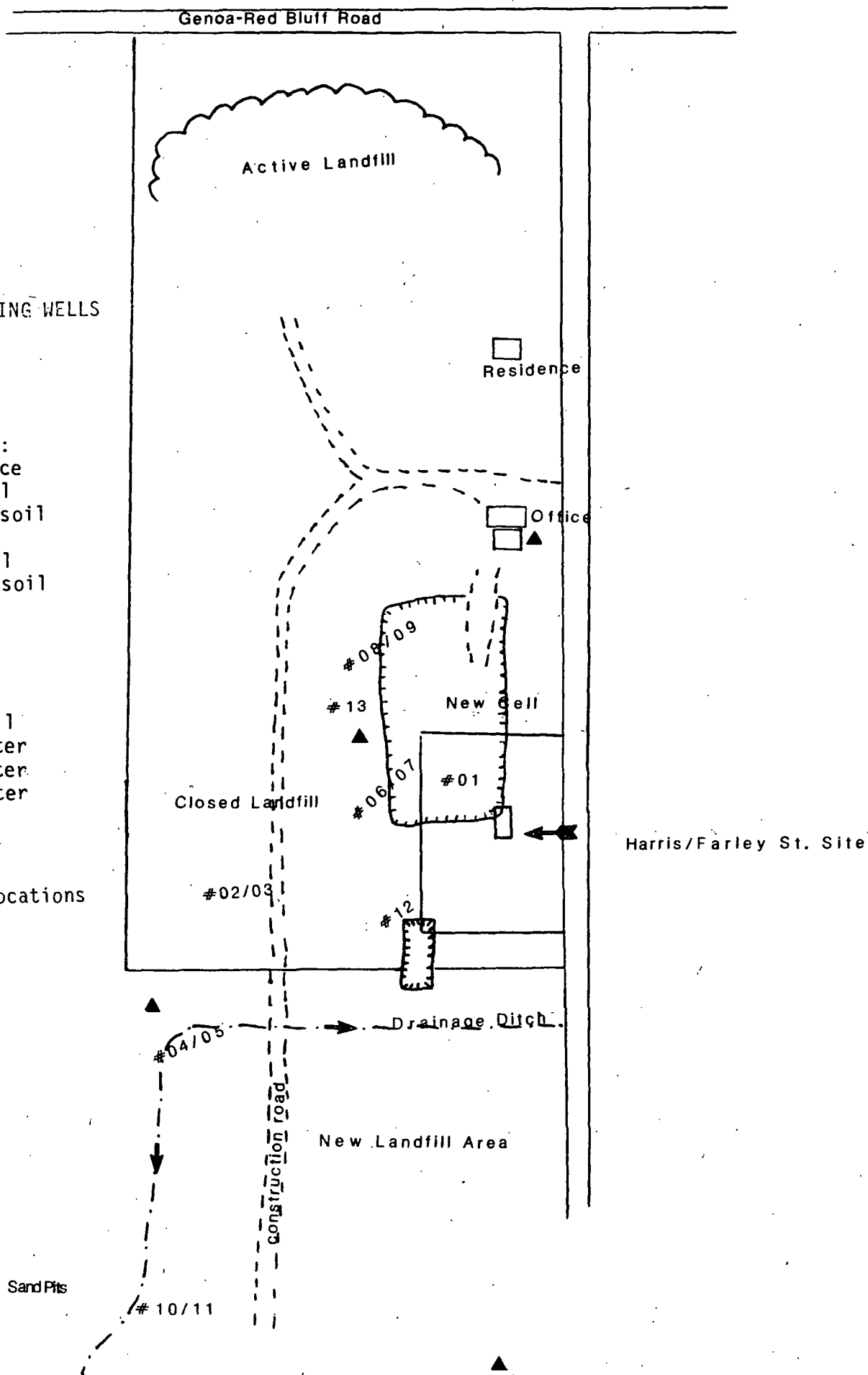
PROPOSED MONITORING WELLS
Hughes Landfill
Pasadena, Texas
(TX 1473)

April 16, 1985

Sample Locations:

- #01 water-surface
- #02 surface soil
- #03 Subsurface soil
12-15"
- #04 surface soil
- #05 subsurface soil
30-36"
- #06 soil (10')
- #07 soil (2')
- #08 soil (15')
- #09 soil (5')
- #10 surface soil
- #11 surface water
- #12 surface water
- #13 surface water

▲ Proposed well locations



This Document Contained Material Which Was Not Film/Scanned

Title Sampling inspection at Hughes Landfill,
Paradena, TX (TX1473) TDD # R6-8502-26
Sample Location Sketch and Proposed Well Location
Plan (Photographs)

**Please Refer to the File in
Superfund Records Center**